Española students invited to White House Science Fair

May 1, 2015

Chaperoned by teacher Jimmy Lara, three James Rodriguez Elementary School students—Casandra Dauz, Jaleena Rolon and José Valdez—recently attended the White House Science Fair in recognition of their achievements during the New Mexico Regional Future City Competition.

The Española students represented all of the participants of the nationwide Future City Competition after White House representatives selected them from among 40,000 Future City competitors from 1,350 schools.The team showed off its Future City presentation at the White House event and mixed and mingled with fellow science, technology, engineering and math (STEM) enthusiasts.

While having her picture taken with other participants, Jaleena Rolon almost met President Obama. “It was cool, but scary,” Rolon said. “We had to get in line from

smallest to tallest and I was in the first row, and he was standing right there. It was him, a girl, then me, and we were so close."

The Española students also toured the White House; chatted with Bill Nye, the science guy; and met astronaut Leland Melvin.

"I showed Leland Melvin my part of the team presentation, which was in American sign language," Casandra Dauz said, "and he told me that at one point he had gone deaf. He was about to learn sign language when his hearing suddenly came back."

Dauz was so excited about her stay in Washington, D.C. that she could not wait to share her experience with her family. "I called my mom every day," she said, "to tell her about the security dog sniffing our project, how I was looking for a present for my little sister's birthday and that we visited the Washington Monument."

Jimmy Lara has been an elementary school teacher for 26 years and was proud to accompany his team to the nation's capital. "I feel that the hand of an angel touched our school to give us an opportunity to be invited to the White House Science Fair," he noted.

Lara has always tried to integrate STEM subjects into his curriculum and founded a technology committee to join forces with other James Rodriguez Elementary School teachers. He organized a team, created a technology plan, secured resources and guidance from Los Alamos National Laboratory, Los Alamos National Security, LLC and the New Mexico Chapter of the Chinese Institute of Engineers, and now much of the school's curriculum is driven by technology.

The Future City model that impressed the White House

Earlier this spring, the regional Future City event challenged students to imagine, design and build a city of the future. Following this year's theme, Feeding Future Cities, the young participants had to select one vegetable and one protein and come up with a way to grow enough of each within the city limits to feed the futuristic city's citizens. Each team built a model using recycled materials, wrote a brief essay and presented their city before a panel of judges.

The Española team's "City of Crystal Water" project earned recognition for the Most Unique Architectural Model, and the students also stood out for incorporating four languages into their presentation: American Sign Language, Spanish, Tewa and English. Cassandra Dauz's church accommodates the hearing impaired, Jaleena Rolon is the daughter of recent immigrants and José Valdez is from Santa Clara Pueblo.

The "City of Crystal Water" project took the team five months with advice and guidance from Jimmy Lara and math assistance from the team's Los Alamos National Laboratory mentor Mark Bibeault.

"Mark was a wonderful resource for the team," Lara said. "He helped the students calculate how much energy their city would need to function, for instance, and how many solar panels would have to be constructed. He also mentored the students in figuring out how energy from the solar panels could be placed in storage and how much could be traded to other cities."

The finished model featured residential areas, a hospital and police station, two fire departments, a church and a playground. The city also had a dam, where citizens of the

future could farm fish and cultivate carrots through hydroponics, a method of farming crops in water instead of soil. Solar panels, hydro-power and wind turbines provided energy.

The most technologically advanced part of the project was a climate-controlled dome that enveloped the dam.

“We didn’t want the fish and carrots to freeze over the winter because of how cold it gets,” Casandra Dauz explained. “So, we invented a dome that can control the climate.”

José Valdez wants to use what he learned to help his Santa Clara community when he grows up.

“Several years ago we had a fire where I live,” Valdez said, “and then a flood came in. I want to become an engineer and fix that problem.”

To learn more about the Future City Competition, visit the National Engineers Week’s Future City website. To see additional photos from the White House Science Fair or watch a video of President Obama touring the fair’s exhibits, go to the White House Science Fair pages.